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The development of water tube media nature theme to improve soft skills and early childhood language

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A B S T R A C T

The purpose of the research is to analyze the feasibility and effectiveness of the Water Tube Media have developed soft motor skills and early childhood language in group A Bina Prestasi Surabaya Kindergarten. The research uses the Dick & Carey research and development model. The result of the research is water tube media products to develop soft motoric skills and early childhood language. The development of the media includes material is the introduction about water characteristics. The study was conducted in class A1 at TK Bina Prestasi Surabaya. Based on the formative test to experts and children obtained qualitative and quantitative data, qualitative data are suggestions from experts and quantitative data in the form of a percentage of child observation sheets. From the percentage of assessment of formative tests experts and also children, the water tube media is feasible and effective to be used in learning to develop soft skills and early childhood language.

INTRODUCTION

Childhood education is an education that provides the most important basis for children's education in the future. Early childhood education is a sensitive period for children or an effective period to develop various aspects of child development, including the development of physical-motor skills, cognitive, language, social-emotional, arts, moral, and religious values. Early childhood, efforts to develop the full potential of children must be implemented so that the child's growth and development are optimally achieved. According to the NAEYC (in Aisyah 2008) revealed that early childhood is children in the age range of 0-8 years, which are covered by educational programs in child care parks, family daycare for children (family child care home), good early childhood education private or public. Furthermore, Bredekamp (in Susanto 2017) divided the group of early childhood into three groups, namely children from infants up to 2 years, children aged 3-5 years, and children aged 6-8 years. The division of children by age can influence the rules in implementing curriculum in education and child care.

Early childhood has different characteristics in each individual, but in general Hasibuan (2017) argues that early childhood has characteristics namely; (a) each child is unique; (b) children learn through play and trying; (c) the child's attention span is short; (d) children see and understand the world from a different perspective from adults; (e) children are egocentric; (f) children need love and acceptance and exploration, activity and expression. Children can think creatively through objects that are around them. Children at an early age are the most effective learning periods, children learn through playing both with peers and with objects that are around it. Children tend to be egocentric but still part of social beings who need other friends to play. Children aged 0-8 years still have a short span of concentration power so that in teaching children cannot be too long, because children will quickly get bored. Children recognize things by organizing and classifying them into concepts. Children still think symbolically, cannot think abstract and complex.

Important aspects to be developed in the process of growth and development of children, one of which is the gross motor aspects. Children who are disrupted by the process of growth and physical development will also be very likely to be disturbed by other aspects, and it may be disturbed in terms of cognitive, language, social-emotional, and also religious and moral values.

Soft motoric skill in early childhood is different then another. There are children who experience motoric development very well, and there are also children who experience obstacles and delays. The difference in growth and physical development of motoric children is influenced by gender, pre-natal background, natal and post-natal. According to the Ministry of National Education (2012), the growth and physical development of a child's motor is strongly influenced by the nutritional intake received by the child, children's health, and motoric treatment according to the child's development. In addition, soft motoric skill, aspects that need to be developed are aspects of language. Santrock (2014) states that a language is a form of communication, whether it is oral, written, or sign, based on a system of symbols. Language consists of words used by the public, along with rules to arrange various variations and combine words. According to Suhartono (2005), children's language is the language used by children to express desires, thoughts, hopes, requests, and others for the child's personal interests.

Developing the soft motoric skill and language aspects of children can be packaged through activities that make children happy. One of the media that can be used to develop soft motoric skills and children's language is a water tube media. Water tube media can be introduced about characteristic of water in the nature theme. The purpose of the water tube media is introduced to the early childhood about characteristic of water and to invite children conduct simple sience experiments. The water tube media that will be developed in this research is "Development of Water Tube Media Nature Theme To improve Soft Motoric Skill and Early Childhood Language". The development of this media is not only used to develop aspects of child development such as motoric scales, language, cognitive, social-emotional, and religious and moral values, but it was introduced about characteristic of water. Water Tube Media designed to development needs of early childhood, especially in group A children aged 4-5 years. Water Tube media designed as attractive and varied as possible, using easy-to-obtain materials, providing an interesting diversity of colors, and a variety of varied activities. It aims to attract the attention and interest of children in active play activities

LITERATURE REVIEW

Instructional Early Childhood Media

According to Sadiman (2014:7) media is anything that can be used to channel messages from sender to receiver so that it can stimulate children's thoughts, feelings, interests and attention in such a way that the learning process can occur. Heinrich, et al (in Musfiqon, 2012: 26) define media as an information channel that connects the source of information and the recipient. Through the media as a communication facility will clarify the meaning between the communicator and the communicant. Azhar Arsyad (2011: 4) states that learning media are intermediaries that carry messages or information for instructional purposes. In early childhood education, learning media means everything that can be used as material (software).

Based on some of the opinions above, it can be concluded that learning media is a means that can support the occurrence of a quality teaching and learning process and the achievement of the expected learning objectives by stimulating the minds, attention and interest of children in teaching and learning activities. Learning media in early childhood are media that can help children acquire knowledge, skills and determine attitudes.

Water Tube Media

Water Tube consists of two words, namely water and tube which in Indonesian means water tube so that the media is a tube-shaped media that is flowed by water (Brunton, Pat & Linda, 2010: 115). In the Big Indonesian Dictionary (2018: 218), the tube is defined as an object shaped like a bamboo that can be flowed by water. According to Dale, (in Asyar, 2012: 49) Water Tube media is a form of real object that can be used to introduce the properties of water to early childhood. The most concrete learning is direct experience carried out by children using real objects. Water Tube media as a form of three-dimensional visual media so that children can explore the media using their senses. The Water Tube media is also equipped with supporting materials and equipment to introduce the properties of water to children, namely dyes, glasses, spoons and funnels.

Soft Motoric Skill

Motor development is divided into two, namely gross motor and fine motor. Gross motor is a body movement that uses large muscles or all limbs that are influenced by the maturity possessed by the child (Fikriyati, 2013: 22). Fine motor skills are movements that use smooth muscles or certain parts of the body that are influenced by opportunities to learn and practice (Fikriyati, 2013: 22). The environment around children can provide opportunities for children to learn and practice developing fine motor skills so that they can develop optimally.

Language Skill

Language is a very important tool in life to facilitate communication between one person and another. Given the importance of language development, language can be introduced to children from birth. According to Koentjaraningrat (in Dariyo, 2007) language is a communication tool that is universal, meaning that it can be ascertained that all humans use language to communicate with others. In line with this opinion, Santrock (2014) states that language is a form of communication in the form of spoken, written or gesture based on a system of symbols.

Language makes a big contribution to early childhood development. Language development in early childhood can be used to socialize and communicate with the environment. The language found in early childhood with adults has a visible difference in the language development abilities they have, namely language development in early childhood begins with recognizing simple languages, while adults have complex languages. According to Suhartono (2005), children's language is the language used by children to express their wishes, thoughts, hopes, requests, and others for the child's personal interest.

METHODS

The study use Dick & Carey research and development model. Which include analyzing needs and goals, learning analysis, analysis of students (students) and context, formulating performance goals or performance, developing instruments or test kits, developing learning strategies, designing and conducting formative evaluations, and making revisions. The results of the development in the form of media water tube products to develop soft motoric skills and language of children in group A. The development of the media to introduce about characterictic of water.

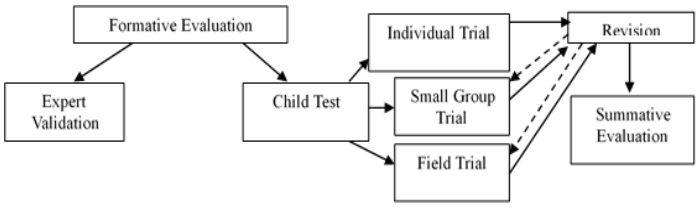

Figure 1. Trial Design

The research subjects are 30 Children's A1 in TK Bina Prestasi 30. The teacher as researcher as an Observer. Validation test with experts is done by requesting validation to 2 experts, namely experts in language development and soft motoric skills of early childhood, and media experts. The type of data obtained from the trial product development water tube media is quantitative data and qualitative data. Quantitative data were obtained from assessment scores at the field trial stage, while qualitative data were obtained from the results of expert validation, individual trials, and small group trials in the form of responses and suggestions for improvement. The instruments used in this research development are interviews, observation sheets, and questionnaires. Interviews are used to determine the problems that occur during initial observation and determining changes in the assessment of the media given to children by using conversational techniques to children. The interview instrument was used at the field trial stage before and after the activity.

Data analysis techniques about the development of the water tube media is done by considering input, comments, and suggestions from experts using the Guttman scale that is revised and not revised. Analysis of the data to determine the effectiveness of the water tube media by using a comparison of soft motoric skills before treatment or before the media are carried out after treatment or after the media are carried out. The trial design used is the type of One Group Pretest Posttest Design.

RESULTS AND DISCUSSIONS

The results of the validation by two experts indicate that water tube media is suitable for use in the next step, which is the individual trial phase. In the individual trials, the results obtained all children get maximum results that are 100%. The results of individual trials show the percentage of acquisition of children more than 51%, so it can be concluded that the individual trials are feasible to be continued in the next trial that is a small group trial. A small group trial was conducted on 10 Group A children in TK Bina Prestasi Surabaya. The results of small group trials conducted by ten children showed maximum results of 100%. Scoring on each indicator obtained indicator 1 100%, indicator 2 100%, indicator 3 100%, indicator 4 100%, indicator 5 100%, indicator 6 100%, indicator 7 100%. Each indicator in the small group trial has obtained maximum results that are 100%, so it can be concluded that each indicator has obtained a percentage of eligibility. The percentage results obtained from 10 children and seven indicators have reached a maximum result of 100% so that it can be concluded that the water tube media is eligible for use in the next trial that is a large group or field trial.

The effectiveness of enhancing gross motor and language development through the water tube media is done by initial measurement (Pretest) and final measurement (Posttest). The ability of children before and after activities with water tube media can be known through large group or field trials. The effectiveness of the water tube media that has been developed and used in group A children, is calculated using SPSS 20 software, the results of calculations using the SPSS are as Table 1 and 2.

Table 1. Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
POSTTEST – PRETEST	Negative Ranks	0[a]	.00	.00
	Positive Ranks	30[b]	15.50	465.00
	Ties	0[c]		
	Total	30		

a. POSTTEST < PRETEST
b. POSTTEST > PRETEST
c. POSTTEST = PRETEST

Table 2. Statistic Test

Test Statistics[a]

	POSTTEST – PRETEST
Z	-4.804[b]
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

CONCLUSIONS

The conclusion from the explanation above is that the results of the hypothesis test used are the "test statistics" output table showing Asymp. Sig. (2-tailed) is worth 0,000. Because the value of 0,000 < 0.05, it can be concluded that H-a is accepted, meaning that there is a difference in scores between before and after being given water tube media. The data shows that the water tube media is effective to be used as a game that can improve the soft motoric skill and early childhood language.

Based on the results of this development research, it can be concluded that water tube media is feasible to be used in improving soft motoric skill and early childhood language. Water Tube media is also effectively and practice to used in developing soft motoric skills and early childhood language. This is proven through the hypothesis test used, the "test statistics" output table shows Asymp. Sig. (2-tailed) is worth 0,000. Because the value of 0,000 < 0,05 it can be concluded that H-a is accepted, meaning that there is a difference in scores between before and after being given the water tube media.

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Author's Contributions

All authors discussed the result and contributed from start until final manuscript.

Conflict of Interest

The authors declare that they have no competing interests.

REFERENCES

Aisyah, S. (2011). Perkembangan dan Konsep Dasar Pengembangan Anak Usia Dini. Jakarta : Universitas Terbuka.

Alper, M. (2014). Developmentally Appropriate New Media Literacies: Supporting Cultural Competencies and Social Skills in early Childhood Education. Journal of Early Childhood Literacy. Advance Online Piblication. Doi: 10.1177/1468798411430101

Arief, S. (2014). Media pendidikan. Jakarta : Rajawali pers.

Asyar, R. (2012). *Kreatif Pengembangan Media Pembelajaran*. Jakarta: Referensi Jakarta.

Azhar, A. (2011). *Media Pembelajaran*. Jakarta: Rajawali Press.

Brunton, Pat & Thornton, L. (2010). *Science in the Early Years.* Singapore: SAGE Publications.

Dariyo A. (2007). Psikologi Perkembangan Anak Tiga Tahun Pertama. Bandung: PT Refika Aditama.

Daryanto. (2013). Media Pembelajaran: Perannya Sangat Penting dalam Mencapai Tujuan Pembelajaran. Yogyakarta: Gava Media.

Depdiknas. (2008). *Kamus Besar Bahasa Indonesia Pusat Bahasa*. Jakarta: Gramedia Pustaka Utama.

Depdikbud. (2015). Materi Pelatihan Peningkatan Kompetensi Guru TK Tahun 2015. Jakarta: Depdikbud.

Depdikbud. (2015). Peraturan Menteri Pendidikan dan Kebudayaan Republik Indonesia Nomor 137 Tahun 2014 Tentang Standar Nasional Pendidikan Anak Usia Dini. Jakarta : Depdikbud.

Depdikbud. (2015). Peraturan Menteri Pendidikan dan Kebudayan Republik Indonesia Nomor 146 Tahun 2014 Tentang Kurikulum 2013 Pendidikan Anak Usia Dini. Jakarta : Depdikbud.

Dick & Carey. (2015). The systematic Design of Instruction. USA: PEARSON.

Fikriyati, M. (2013). *Perkembangan Anak Usia Emas (Golden Age).* Yogyakarta: Laras Media Prima.

Hasibuan, R. (2018). Perencanaan Pembelajaran PAUD. Surabaya. Unesa University Press.

Hasibuan, R., dan Bachri, B., S. (2015). *Materi Workshop Implementasi Kurikulum 2013 PAUD*. Surabaya.

Khadijah. (2015). *Media Pembelajaran Anak Usia Dini.* Meda : Perdana Publishing

S. Morrison, G. (2012). Dasar-dasar Pendidikan Anak Usia Dini Jakarta Barat: Permata Puri Media Kembangan Utara.

Santrock, John. W. (2014). Psikologi Pendidikan. Jakarta: Salemba Humanika

Santrock. (2007). Psikologi Pendidikan *(Educational Phsychology)* Edisi 3 buku 1. Jakarta: Salemba Humanika.

Seefeldt, C. dan Barbara A. Wasik. (2008). Pendidikan Anak Usia Dini Menyiapkan Anak Usia Tiga, Empat dan Lima Tahun Masuk Sekolah. Jakarta: PT Indeks.

Sternberg, Robert J. (2006). Psikologi Kognitif. Edisi Keempat. Yogyakarta: Pustaka Pelajar,

Sudijono, A. (2008). *Pengantar Statistik Pendidikan*. Jakarta: PT. Raja Grafindo Persada.

Suhartono. (2005). Pengembangan keterampilan bicara anak usia dini. Jakarta: Depdiknas.

Sugiyono. 2007. *Memahami Penelitian Kualitatif*. Bandung: Alfabeta.

Sugiyono. (2015). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Bandung: Alfabeta.

Sujiono. (2015). Konsep Dasar Pendidikan Anak Usia Dini. Jakarta: Indeks.

Sujiono, Yuliani Nurani dan Bambang Sujiono. (2014). *Bermain Kreatif Berbasis Kecerdasan Jamak*. Jakarta: PT Indeks.

Susanto, A. (2014). Perkembangan Anak Usia Dini: Pengantar dalam Berbagai Aspeknya. Jakarta: Kencana.

Tarigan, J. Oduolowu, E. & Akintemi, E. O. (2014). Effect Of Storytelling on Listening Skills. International Journal of Humanities and Social Science, 4(9), 100.

Weisberg, Zosh, Hirsh-Pasek & Golinkoff. (2018). The Language of play: Developing preschool vocabulary through play following shared book-reading. ScienceDirect Elesvier.